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Serial No.: 10/531,220
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PATENT
PU020449

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before the Board of Patent Appeals and Interferences

Applicant: Anton Werner Keller

Serial No.: 10/531,220

Filed: April 13, 2005

Title: BUS CONTROLLED POWER SWITCH

Examiner: Thuan N. Du

Art Unit: 2116

Appeal Brief

Mail Stop: Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

May It Please The Honorable Board:

This is the Appellant's Brief on Appeal from the Final Rejection of Claims 1 to 8. Please charge the $510 fee for filing this Brief to Deposit Account No. 07-0832. The Appellant waives an Oral Hearing for this Appeal.

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June 19, 2008
Date

Patricia M. Fedorowycz

I. REAL PARTY IN INTEREST

The real party in interest of Application Serial No. 10/531, 220 is the assignee of record:

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II. RELATED APPEALS AND INTERFERENCES

There are currently, and have been, no related appeal or interference proceedings regarding this application known to the undersigned attorney.

III. STATUS OF THE CLAIMS

Claims 1 to 8 are rejected, and the rejection of Claims 1 to 8 is appealed.

IV STATUS OF AMENDMENTS

All amendments were entered and are reflected in the Claims included in Appendix I.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent Claim 1 claims a switch (70, 300) for applying operating power from a peripheral device power source (320) to a peripheral device (12'), the peripheral device being configured for communication with at least one other electronic device (20) by a data bus (34'), the switch including a circuit (300) for sensing communication on said data bus and providing an indication of sensed communication to said peripheral device power source to apply power to said peripheral device in

response to said sensed communication (page 3, lines 21-25), said communication sensing circuit comprising:

a transformer (T1) having a first winding (left side, Fig. 3) coupled to said data bus and a second winding (right side, Fig. 3) coupled to a first switching transistor (Q1), wherein the switch has no power dissipation when no activity is present on the data bus (page 3, lines 24-25).

Dependent Claim 2, in addition to the recitations of Claim 1, adds the recitations that the first switching transistor (Q1) is brought from a non-conducting state to a conducting state in the presence of activity on said data bus (page 4, lines 24-25).

Dependent Claim 3, in addition to the recitations of Claims 1 and 2, adds the recitations of a second switching transistor (Q2) having an input coupled to a capacitor (C3), wherein the second switching transistor is brought from a non-conducting state to a conducting state in response to a charge on said capacitor exceeding a threshold level when said first switching transistor is in said conducting state (page 4, lines 26-33).

Dependent Claim 4, in addition to the recitations of Claims 1-3, adds the recitations of further comprising a capacitor (C2) coupled to the output of the second switching transistor (Q2) for providing an input voltage (V_{CC}) to a control circuit (74) of the power supply (70') for activating or inactivating the power supply according to the level of the input voltage (page 4, line 29, to page 5, line 5).

Dependent Claim 5, in addition to the recitations of Claim 1,adds the recitations that the power supply further includes a latching circuit (W_3,D2) responsive to initial activation of said power supply for providing a voltage signal to the power supply sufficient to maintain the power supply in an active state independent of the bus activity (page 6, lines 1-14).

Dependent Claim 6, in addition to the recitations of Claims 1 and 5, recites a control input (CI) of said power supply (70') is coupled to a controller of said peripheral device for receiving a control signal to cause

said power supply to become inactive when there is no activity on said bus (page 6, lines 15-20).

Dependent Claim 7, in addition to the recitations of Claim 1, recites means for bypassing said switch to provide a path from a source of input supply voltage to said power supply to cause activation of the power supply independent of bus activity (page 6, lines 1-14).

Dependent Claim 8, in addition to the recitations of Claims 1, 5 and 6, recites said controller is configured to provide said control signal to said control input of the power supply after a given time delay based on an absence of bus activity on said data bus (page 6, lines 15-20).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The Examiner has rejected Claims 1 to 8 as unpatentable, under 35 USC 103(a), over Seidenberg US patent 6,427,183, in view of Bedard et al. US patent 4,484,295.

VII. ARGUMENT

This invention relates to a switch for applying operating power from a peripheral device power source to a peripheral device, in which power is applied to such peripheral device in response to a sensed communication on a data bus. Such an arrangement is generally shown by the cited patent to Seidenberg. However, the instant invention further includes a transformer having a first winding coupled to said data bus, and a second winding coupled to a first switching transistor, wherein the switch has no power dissipation when no activity is present on the data bus. Nowhere do either the cited patent to Seidenberg nor the cited patent to Bedard et al., taken either singly or in combination, show or suggest the instant invention.

Seidenberg shows a detection circuit (amplifier OP) which detects activity on bus S_0, and uses this information to control switch S_1, which controls the application of power to load DEV. Seidenberg provides an isolation transformer between the S_0 bus and load DEV, as explained in column 4, lines 11 to 13. However, nowhere does Seidenberg show or suggest an isolation transformer between the S_0 bus and the detector circuitry.

Bedard et al shows an isolation transformer 14, as part of interface circuit 12, between control circuit 10 and load 19, as explained in column 3, line 52. If the structure of Bedard et al were to be incorporated into the structure of Seidenberg, the relay of Seidenberg would be replaced by isolation transformer 14 of Bedard et al. Nowhere would the combined structure show or suggest:

> "said communication sensing circuit comprising a transformer having a first winding coupled to said data bus and a second winding coupled to a first switching transistor",

as specifically set forth in Claim 1. Rather, the combined structure would have an isolation transformer at the output of the detection circuit, but not between the data bus and the detection circuit. It is therefore clear that even if the structures of the two references were to be combined, the patentability of Claim 1 would not be affected.

In the Advisory Action of 8 May 2008, the Examiner asserted that "the isolation transformer taught by Bedard would be applicable when placed in between the data bus and the detecting circuit, i.e. at Q2". This is not what is taught by Bedard et al. Rather, Bedard et al. teach isolation transformer 14 coupled between transmission medium 11 and Load (Ballast/Lamp). See Figure 1 of Bedard et al. Bedard et al teaches the isolation of a load from a control circuit 10. Nowhere does Bedard et al

teach or suggest isolation of a control circuit from any detection circuitry, as in the instant invention.

It is therefore clear that if the structure of Bedard et al were to be combined with the structure of Seidenberg, the apparatus to be switched (load DEV) would be isolated from the remainder of the circuitry by an isolation transformer. That is, relay coil REL and switch S_1 of Seidenberg would be replaced by an isolation transformer. Nowhere would such a combination show or suggest:

> "a transformer having a first winding coupled to said data bus and a second winding coupled to a first switching transistor",

as specifically recited in Claim 1. It is therefore clear that the combination of Seidenberg with Bedard et al does not affect the patentability of Claim 1.

Claims 2 to 8 are dependent from Claim 1 and add further advantageous features. The Appellant submits that these subclaims are patentable as their parent Claim 1.

The Appellant submits that the instant application is in condition for allowance. The Appellant respectfully requests that the final rejection of Claims 1-8 be reversed.

Respectfully submitted,

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APPENDIX I

Appealed Claims

1. A switch for applying operating power from a peripheral device power source to a peripheral device, the peripheral device being configured for communication with at least one other electronic device by a data bus, the switch including a circuit for sensing communication on said data bus and providing an indication of sensed communication to said peripheral device power source to apply power to said peripheral device in response to said sensed communication, said communication sensing circuit comprising:

a transformer having a first winding coupled to said data bus and a second winding coupled to a first switching transistor, wherein the switch has no power dissipation when no activity is present on the data bus.

2. The switch of claim 1, wherein the first switching transistor is brought from a non-conducting state to a conducting state in the presence of activity on said data bus.

3. The switch of claim 2, further comprising a second switching transistor having an input coupled to a capacitor, wherein the second switching transistor is brought from a non-conducting state to a conducting state in response to a charge on said capacitor exceeding a threshold level when said first switching transistor is in said conducting state.

4. The switch of claim 3, further comprising a capacitor coupled to the output of the second switching transistor for providing an input voltage to a control circuit of the power supply for activating or inactivating the power supply according to the level of the input voltage.

5. The switch of claim 1, wherein the power supply further includes a latching circuit responsive to initial activation of said power supply for providing a voltage signal to the power supply sufficient to maintain the power supply in an active state independent of the bus activity.

6. The switch of claim 5, wherein a control input of said power supply is coupled to a controller of said peripheral_device for receiving a control signal to cause said power supply to become inactive when there is no activity on said bus.

7. The switch of claim 1, further comprising means for bypassing said switch to provide a path from a source of input supply voltage to said power supply to cause activation of the power supply independent of bus activity.

8. The device of claim 6, wherein said controller is configured to provide said control signal to said control input of the power supply after a given time delay based on an absence of bus activity on said data bus.